

# **EXHIBIT 15**

AICPA

AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS

# UNDERSTANDING BUSINESS VALUATION

SECOND EDITION

A Practical Guide to Valuing  
Small to Medium-Sized Businesses

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The answers to these questions will serve dual purposes. The first purpose is to demonstrate that the appraiser understands the nature of the business, as well as what makes the business run. The second purpose, once again, is to perform a risk assessment of the subject company. What we are trying to do is determine whether the appraisal subject is similar or dissimilar, or more risky or less risky, than other companies in the industry. Factors that the appraiser will analyze include the products and services offered by the company, customer base, suppliers, management, operations, and ownership structure. A good portion of this information will fit nicely into the history and nature of the company section of the appraisal report. This will also assist the appraiser in developing market multiples, discount rates, and capitalization rates.

## Financial Analysis

The purpose of the financial analysis is to review the subject company's performance with respect to other companies, its industry peers, or itself. Comparing the subject company to its peers helps the appraiser assess whether the company is more or less risky in relation to its peer group. Comparing the company to itself allows the appraiser to determine how the company has performed over the past few years. This can help give the appraiser an idea of future trends that may occur.

During the financial analysis, the appraiser attempts to identify unusual items, nonrecurring items, and trends. An attempt should be made to explain what happened and why it happened. If there is a departure from the norms of the industry, this should also be investigated and explained.

The following analytical tools are used by the appraiser:

- Comparative company analysis
- Common-size financial statements
- Financial ratio analysis
- Comparative industry analysis
- Trend analysis

### Comparative Company Analysis

Most business appraisers will request at least five years of financial information about the subject company. The amount of data will depend on the facts and circumstances. However, a good rule of thumb is to ask for enough years of data to cover a complete business cycle. This will allow the appraiser to create a spreadsheet looking for trends that may have occurred, as well as inconsistencies in the reported data.

### Common-Size Financial Statements

The use of common-size financial statements is an excellent way to analyze the subject company with respect to other companies of different sizes. By presenting the data as percentages, the size differentials are eliminated between the subject company and its peer group. Exhibit 5.3 illustrates a common-size analysis taken from an actual report. In this illustration, industry information was used as a comparison to the appraisal subject.

Common-size statements are also useful in allowing the appraiser to perform an analysis about the company's financial performance over a period of years. Trends can be more readily identified, which will allow the appraiser to make projections or evaluate the budget information provided by management.



**EXHIBIT 5.3**  
**Common-Size Financial Analysis**

A common-size balance sheet is presented in Table 1. This allows the appraiser to make a comparison of the subject company to the industry composite data. For the purposes of this analysis, we have used comparative industry statistics from Integra Information, Inc.'s *Business Profiler* for Standard Industrial Classifications (SIC) code 5023—Wholesale Trade, Home Furnishings (includes linoleum, carpets, and other floor coverings). The data used by Integra comes from numerous government data sources, including, but not limited to, *IRS Corporate Source Book* Form 10-K and 10-Q Filings for Public Companies, U.S. Census Bureau, and various regional databases. The data was a composite of 18 companies within the \$50,000,000 to \$99,999,999 annual sales range.

The common-size balance sheet information provided in Table 1 allows us to analyze business trends, as well as make a comparison between the subject company and other companies within the industry.

The Company's level of current assets was lower than the industry composite data for 1994 through 1997. This was due primarily to lower levels of cash and inventory. However, The Company's current assets are comparable to that of the composite data in 1998, primarily due to an increased level of inventory.

**TABLE 1**  
**Common-Size Balance Sheet as of December 31**

	1995		1996		1997		1998	
	<u>Integra</u>	<u>Apex</u>	<u>Integra</u>	<u>Apex</u>	<u>Integra</u>	<u>Apex</u>	<u>Integra</u>	<u>Apex</u>
<b>Assets</b>								
Cash	6.25 %	0.75%	6.29%	4.28%	6.23%	3.89%	6.19%	1.93%
Marketable securities	0.96 %	0.00%	0.94%	0.00%	0.93%	0.00%	0.91%	0.00%
Accounts receivable (net)	30.06 %	30.07%	30.25%	29.36%	29.95%	33.50%	29.74%	30.11%
Inventory	38.85 %	28.06%	39.07%	28.23%	38.73%	33.19%	38.49%	41.48%
Other current assets	3.73 %	0.88%	3.81%	1.01%	3.85%	0.91%	3.96%	0.67%
<b>Total current assets</b>	<u>79.85 %</u>	<u>59.76%</u>	<u>80.36%</u>	<u>62.88%</u>	<u>79.69%</u>	<u>71.49%</u>	<u>79.29%</u>	<u>74.20%</u>
<b>Fixed assets</b>								
Property, plant & equipment	24.62%	70.05%	23.87%	77.74%	24.81%	59.37%	25.19%	55.57%
Accumulated depreciation	-10.66%	-44.44%	-10.30%	-49.96%	-10.63%	-35.71%	-10.57%	-33.21%
<b>Net fixed assets</b>	<u>13.96%</u>	<u>25.62%</u>	<u>13.57%</u>	<u>27.77%</u>	<u>14.18%</u>	<u>23.66%</u>	<u>14.62%</u>	<u>22.36%</u>
<b>Other assets</b>								
Intangible assets (net)	0.62%	0.00%	0.63%	0.00%	0.65%	0.00%	0.67%	0.00%
Investments	4.29%	0.00%	4.10%	0.00%	4.09%	0.00%	3.98%	0.00%
Other assets	1.28%	14.63%	1.34%	9.34%	1.39%	4.85%	1.44%	3.44%
<b>Total other assets</b>	<u>6.19%</u>	<u>14.63%</u>	<u>6.07%</u>	<u>9.34%</u>	<u>6.13%</u>	<u>4.85%</u>	<u>6.09%</u>	<u>3.44%</u>
<b>Total assets</b>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>
<b>Liabilities and net worth</b>								
Notes payable—banks	13.30%	2.81%	12.89%	0.87%	12.87%	0.91%	12.55%	2.92%
Accounts payable	25.66%	23.84%	26.51%	24.64%	26.21%	44.47%	26.87%	42.44%
Other current liabilities	9.87%	0.16%	10.21%	0.17%	9.49%	0.11%	9.34%	2.06%
<b>Total current liabilities</b>	<u>48.83%</u>	<u>26.81%</u>	<u>49.61%</u>	<u>25.68%</u>	<u>48.57%</u>	<u>45.49%</u>	<u>48.77%</u>	<u>47.42%</u>

## EXHIBIT 5.3 (Continued)

	1995		1996		1997		1998	
	<i>Integra</i>	<i>Apex</i>	<i>Integra</i>	<i>Apex</i>	<i>Integra</i>	<i>Apex</i>	<i>Integra</i>	<i>Apex</i>
Long-term liabilities								
Long-term debt	14.02%	0.00%	13.92%	1.90%	13.43%	2.00%	13.23%	0.90%
Loans from stockholders	3.66%	0.00%	3.67%	0.00%	3.57%	0.00%	3.54%	0.00%
Other liabilities	1.65%	0.00%	1.72%	0.00%	1.70%	0.00%	1.75%	0.00%
Total long-term liabilities	19.33%	0.00%	19.31%	1.90%	18.70%	2.00%	18.52%	0.90%
Total liabilities	68.17%	26.81%	68.92%	27.58%	67.28%	47.50%	67.29%	48.32%
Total net worth	31.83%	73.19%	31.08%	72.42%	32.72%	52.50%	32.71%	51.68%
Total liabilities net worth	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Note: 1994 was left out of exhibit intentionally. Figures may not add due to rounding.

The Company's fixed assets have been consistently higher than the composite data over the five-year period. As mentioned previously, The Company owns the real estate that it operates in and, as such, this may be contributing to its fixed assets representing a larger portion of its total assets.

The Company's current liabilities were much lower than the composite data for 1994 through 1996, primarily due to its historically low levels of bank and trade debt. In 1997 and 1998, The Company's accounts payable increased dramatically. This was most likely due to increased sales to the main supplier's direct accounts. This increase in accounts payable resulted in total current liabilities that were comparable to the industry data for 1997 and 1998.

As The Company had limited its debt exposure in the past, it has significantly lower long-term obligations as compared to the industry composite data. This results in The Company having a greater level of equity (or net worth) than the industry composite data for the five-year period. In 1994 through 1996, The Company's net worth was well over twice that of the industry composite data. Given the increase in current liabilities, The Company's net worth was approximately 1.5 times the industry data in 1997 and 1998.

Overall, The Company appears to be very healthy from a balance sheet perspective.

The next step in the valuation process is to analyze The Company's income statements. The historic income statements appear as Schedule 2 at the end of this report. This step requires the appraiser to analyze Apex's earnings capacity based on its historic results, as well as what may be produced in the future. Future earnings capacity is critical, as it is an important component of valuation. For this reason, the appraiser analyzes the historic financial statements with an eye toward probable future earnings that can be generated by the subject company.

In order to further analyze The Company's operating performance, a common-size income statement is shown in Table 2.

TABLE 2  
Common-Size Income Statement for the Years Ended December 31

	1995		1996		1997		1998	
	<i>Integra</i>	<i>Apex</i>	<i>Integra</i>	<i>Apex</i>	<i>Integra</i>	<i>Apex</i>	<i>Integra</i>	<i>Apex</i>
Revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of sales	72.52%	79.61%	72.85%	81.53%	73.08%	80.99%	73.57%	88.12%
Gross margin	27.48%	20.39%	27.15%	18.47%	26.92%	19.01%	26.43%	11.88%
Operating expenses	24.38%	20.58%	24.09%	20.54%	23.87%	19.14%	23.21%	10.84%
Operating income	3.10%	-0.19%	3.06%	-2.07%	3.05%	-0.13%	3.22%	1.04%
Interest expense	-0.88%	-0.15%	-0.81%	-0.07%	-0.79%	-0.06%	-0.78%	-0.15%
Total other income (expenses)	0.11%	0.38%	-0.09%	0.77%	-0.24%	1.55%	-0.54%	-0.15%
Pretax income (loss)	2.33%	0.19%	2.16%	-1.30%	2.02%	1.42%	1.90%	0.90%
Income taxes	-0.89%	-0.01%	-0.82%	0.10%	-0.77%	-0.19%	-0.72%	-0.01%
Net income (loss)	1.44%	0.20%	1.34%	-1.20%	1.25%	1.23%	1.18%	0.88%

Note: 1994 was left out of exhibit intentionally. Figures may not add due to rounding.

(Continued)

## EXHIBIT 5.3 (Continued)

The common-size figures provided in Table 2 allow the appraiser to analyze trends in The Company's expenses in relation to revenues and also permit us to compare the expenses and income of the subject company to the industry composite data from Integra.

Cost of sales for the industry has been steadily increasing over the five-year period from 72.2 percent in 1994 to 73.6 percent in 1998. The same trend is exhibited by The Company's cost of sales, which increased from 78.8 percent in 1994 to 81.0 percent in 1997, and more dramatically to 88.1 percent in 1998. As discussed previously, this is due to the fact that The Company's sales mix has been experiencing a shift toward lower profit margin sales to the main supplier's customers. As such, this results in Apex being much less profitable (in terms of gross margin) than the industry composite data in 1998; 11.88 percent gross margin for The Company compared to 26.4 percent for the composite data.

However, The Company has been able to make up some of this difference by minimizing its operating expenses (on a relative basis). In 1998, The Company's operating expenses represented 10.8 percent of sales compared to 23.2 percent for the composite data. This results in an operating margin for The Company of 1.0 percent in 1998, compared to 3.2 percent for its peer group. Again, this is mainly due to the lower profit sales to the main supplier's accounts. In prior years, The Company did not have any operating income, compared with roughly a 3 percent operating margin for the industry composite data.

## Financial Ratios

The use of financial ratios allows the appraiser to analyze the performance of the subject company in terms of liquidity, performance, profitability, and leverage. These ratios are compared against industry data, guideline company data, or both, for the assessment of risk.

Different industries sometimes use different financial ratios, but the basic ratio analysis is the same. However, the same financial ratio will have different meanings depending upon the industry being considered. For example, you would expect the inventory turnover ratio for a perishable food business to be greater than that for an automobile dealership. A description of some of the more common ratios follows.

## IMPORTANT

**NOTE:** Some sources use average figures whereas others use year-end data. Make certain that you are consistent in your calculations to ensure that you are using the same basis when comparing with industry sources of ratios. Also, make sure that you use the ratios from the comparative data that best match the time period of the valuation.

**Current Ratio = Current Assets ÷ Current Liabilities.** The current ratio measures the margin of safety that management maintains to allow for the inevitable unevenness in the flow of funds through the current asset and current liability accounts. A company needs a supply of current funds to be assured of being able to pay its bills when they come due. This ratio shows the company's ability to pay for its ongoing operations in the short term. A company's liquidity is essential to its good credit, its ability to grow with its own funds, and its ability to pay dividends to its owners.

**Quick Ratio = (Cash + Marketable Securities + Accounts Receivable) ÷ Current Liabilities.** Quick assets include cash, marketable securities, and current accounts receivable. Presumably, these items can be converted into cash quickly at approximately their stated amounts, unlike inventory, which is the principal current asset that is excluded from this calculation. The quick ratio is therefore a measure of the extent to which liquid resources are available to meet current obligations. This ratio tends to be a better measure of the company's short-term liquidity, particularly if cash needs to be generated quickly to pay bills.

**Cash to Current Liabilities = Cash ÷ Current Liabilities.** Cash and cash equivalents are the most readily available assets with which to pay liabilities. This ratio tells the appraiser whether the subject company has a strong enough cash position to meet its short-term obligations. This ratio can also assist the appraiser in determining whether the subject company is carrying excess cash on its balance

sheet. Excess cash may show a poor use of current assets by management. I wish that I had the problem of having excess cash. My kid makes sure that never happens!

**Accounts Payable to Inventory** =  $\text{Accounts Payable} \div \text{Inventory}$ . Businesses generally purchase inventory on credit. The ratio of accounts payable to inventory measures the extent to which a company's inventory is financed by the suppliers of that inventory. A low ratio may indicate that management is not taking advantage of the credit terms available from suppliers. It may also indicate a high level of inventory being carried by the company, when the ratio is used in conjunction with inventory turnover ratios.

**Accounts Payable Payout Period** =  $\text{Accounts Payable} \div (\text{Cost of Goods Sold}) \text{ Number of Days}$ . The accounts payable payout period measures the timeliness of paying suppliers. This figure is related directly to the normal credit terms of the company's purchases. This ratio allows the appraiser to consider the company's ability to obtain favorable terms from vendors because of good creditworthiness.

**Debt to Equity** =  $\text{Total Liabilities} \div \text{Net Worth}$ . Debt is risky because if creditors are not paid promptly, they can take legal action to obtain payment, which, in extreme cases, can force the company into bankruptcy. The greater the extent to which a company obtains its financing from its owners, the less worry the company has in meeting its fixed obligations. The debt-to-equity ratio shows the balance that management has struck between debt and stockholders' equity. A proper capital structure should include a portion of debt, since debt has a lower cost of capital. Different industries have different debt-to-equity relationships.

**EBIT to Total Assets** =  $\text{Earnings Before Interest and Taxes} \div \text{Total Assets}$ . Earnings before interest and taxes (EBIT) to total assets is an important return-on-investment ratio that provides a profit analysis based on earnings before interest and income taxes. This ratio is best compared with a company's annual interest rate on borrowed funds. If the ratio of a firm's EBIT to total assets is higher than its weighted average cost of capital, the ratio is favorable.

**Times Interest Earned** =  $\text{EBIT} \div \text{Interest}$ . The times interest earned ratio measures the number of times that the earnings before interest and taxes will cover the total interest payments on debt. The result indicates the level to which income can decline without impairing the company's ability to meet its interest payments on liabilities. If the ratio falls below 1.0, the firm is not generating enough earnings to cover the interest due on loans. This ratio indicates the financial risk of the company.

**Average Collection Period** =  $\text{Accounts Receivable} \div (\text{Credit Sales} \div 365)$ . The average collection period can be evaluated against the credit terms offered by the company. As a rule, the collection period should not exceed  $1\frac{1}{3}$  times the regular payment period; that is, if a company's typical terms call for payment in 30 days, the collection period should not exceed 40 days. Changes in the ratio indicate changes in the company's credit policy or changes in its ability to collect receivables.

**Inventory Turnover** =  $\text{Cost of Goods Sold} \div \text{Ending Inventory}$ . Inventory turnover is an indication of the velocity with which merchandise dollars move through the business. An increase in the value of inventory may represent the additional stock required by an expanding business, or it may represent an accumulation of merchandise from a declining sales volume. In the latter case, the inventory turnover will decrease. A decrease in the inventory turnover ratio may therefore be a significant danger signal.

**Inventory Holding Period** =  $365 \div \text{Inventory Turnover}$ . Some of the company's products come in and go out in a matter of days; other goods may stay in stock for six months or longer. The holding period differs for different products. Business managers and owners must be concerned with a holding period that is



longer than necessary because of the high costs of tying up capital in excess inventory. On the other hand, reducing inventory levels too much could result in lost sales, because certain products are not available when the customer wants them. The cost of carrying inventory has to be balanced against the profit opportunities lost by not having the product in stock, ready for sale.

**Other Financial Ratios.** There are many other financial ratios that can be considered by the appraiser. Some of the ratios that will be calculated may relate to the company's equity, while others relate to the company's invested capital. Invested capital is considered to be the company's long-term debt or nonworking capital debt plus the equity of the company. Since a proper capital structure will generally include an appropriate mix of debt and equity, some appraisers prefer to value the company in this manner. What this really does is allow the appraiser to value the company on an invested capital basis, eliminating differences in leveraging between the subject company and the guideline companies. This becomes more important in the valuation of larger companies, since the companies being used for comparison purposes may be publicly traded. We will discuss this further in Chapter 6.

The return-on-equity ratio (also known as the *Dupont analysis*) is considered to be one of the most important financial ratios, since it measures profitability, turnover, and leverage all in one ratio. The mathematical breakdown of the return on equity ratio is as follows:

$$\frac{\text{Net income}}{\text{Equity}} = \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

Another analytical tool used by appraisers is the compound growth rate. Compound growth rates are frequently used by the appraiser in the selection of guideline companies, pricing multiples, discount rates, and capitalization rates. Both revenues and net income (cash flow can be used also) should be analyzed by the appraiser. The mathematical formula for calculating compound growth as a percentage is as follows:

$$\left( (n-1)\sqrt[n]{\text{amount}_n \div \text{amount}_1} \right) - 1$$

The compound growth rate is often calculated for historical data to give an indication of future growth. However, keep in mind that the formula considers only the first and last year. Therefore, it does not calculate a change from year to year. Because of this, you must be careful in selecting the first and last years for your calculation. Ideally you want to look at the business cycle (peak to peak or valley to valley) or look at a constant trend.

When looking at growth, the appraiser should also examine the year-to-year change as well as the actual numbers. Over a longer period of time, this is very often more meaningful than the compound growth rate. Let's look at a simple example to illustrate this concept. Assume that Smith Company had sales as follows:

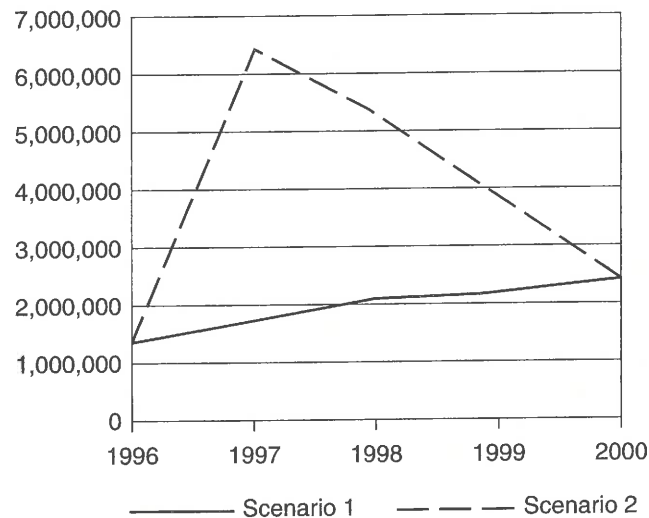
Year	Amount
1996	\$ 1,350,000
1997	1,675,000
1998	2,100,000
1999	2,200,750
2000	2,450,000



The five-year compound growth rate for Smith Company is 16.1 percent (calculated as the fourth root of \$2,450,000 divided by \$1,350,000, or 1.1606, then minus 1). A review of the increase in sales on an annual basis indicates that the company experienced constant growth during this five-year period. But what if the sales were as follows:

Year	Amount
1996	\$ 1,350,000
1997	6,450,000
1998	5,375,000
1999	3,900,000
2000	2,450,000

In this situation, the compound growth rate would be the same 16.1 percent, but look at the difference in the trend. Graphically, these trends look like this:



The appraiser needs to pay attention to trends, not just a group of calculations. Remember that the goal is to be able to use this information to forecast the future. In this instance, the appraiser would probably not use compound growth rates, since they would have little relevance. You must pay particular attention to the information and not just go through the motions of doing a series of calculations because you read a book or you have a computer program that will calculate these ratios for you. Analysis means that you must *analyze* the information! Otherwise, financial analysis would be called financial calculation.

### Comparative Industry Analysis

The purpose of a comparative analysis is to compare the subject company's operating performance with that of its peer group. This analysis is undertaken to determine the company's position with respect to its peers. Is it more or less risky than its peer group? How well does the company perform as compared with the peer group? Some of the more common sources for comparative data include the following:

- Trade association surveys
- Integra Information's *Business Profiler*

- RMA Annual Statement Studies
- Almanac of Business and Industrial Ratios
- Financial Statement Studies
- D&B Key Business Ratios
- Guideline companies

Comparative analysis is a useful tool for an appraiser to use only if the subject company can be meaningfully compared with either specific guideline companies or industry composite data. Common-size financial statements and financial ratio analyses are much more meaningful if the results can be compared with guideline company results or industry data.

If a company is large enough, there may be publicly traded companies that can be used for this type of analysis. For the smaller companies, and even sometimes for the larger companies, it is generally worthwhile to compare the subject to some form of industry data, whether it is obtained from a trade organization or Integra Information's *Business Profiler*.

**Business Profiler.** I want to spend some time showing you the type of information that can be obtained and used from this great resource. For many appraisers that value smaller companies, this is the ideal type of information to use as a basis for comparison. Let me show you what I am referring to.

The screenshot shows the 'Integra Business Profiler' window with the 'Industry Profile' tab selected. The interface includes a menu bar (File, Tools, Help) and a 'Go To' button. The main content area is divided into three sections:

- Select Industry:** A text box containing '5251' and a 'Browse...' button.
- Identify Annual Sales Range:** A text box with the instruction 'Select Annual Sales Ranges from the list on the right.'
- Report Prepared For:** A text box for entering the report name.

Below these sections is a 'Comments' text area. To the right, a table displays the following data:

5251 Retail Trade Hardware stores	
Sales Range	Business Count
All Sales Ranges	9,946
Less Than \$250,000	3,421
\$250,000 - \$499,999	2,002
\$500,000 - \$999,999	2,199
\$1,000,000 - \$2,499,999	1,525
\$2,500,000 - \$4,999,999	491
\$5,000,000 - \$9,999,999	203
\$10,000,000 - \$24,999,999	84
\$25,000,000 - \$49,999,999	13
\$50,000,000 - \$99,999,999	2
\$100,000,000 - \$249,999,999	4
\$250,000,000 - \$499,999,999	1
More Than \$500,000,000	1

At the bottom of the window are 'OK' and 'Cancel' buttons. The Windows taskbar at the bottom shows the 'Start' button, open applications (Microsoft P..., Integra ..., WordPerf...), and the system clock (9:10 AM).

Source: Reprinted with kind permission from Integra Information, a Division of Microbilt Corp.

When you first enter the program, you will have to identify the SIC code for the subject company. Let's use 5251, Retail Hardware Stores. What is of considerable importance to a business appraiser is comparability. *Business Profiler* allows the analyst to choose between different size companies, so that the comparison is more relevant to the appraisal subject.

As you can see, *Business Profiler* has a total of 9,946 companies in the hardware store profile. This is a greater number of items than you will find anywhere else for this type of information. Let's assume that the appraisal subject has sales of \$2 million. By selecting the range of \$1 million to \$2.499 million, we will be working with 1,525 companies.

A quick overview is available for all of the data in our group. It looks like this:

Integra Business Profiler

File Tools Help

Go To Home

Overview gd 5251 Retail Hardware Stores (1,000 - \$2,499,000)

Overview Graph Year Ending: 1999 Quick Print

(Dollars in Thousands)

Industry Growth					
	1996	1997	1998	1999	CAGR
Industry Growth - Revenue	1.4%	0.4%	4.2%	8.0%	3.0%
Industry Growth - EBITDA	-4.0%	-1.3%	1.5%	3.7%	-0.1%
Industry Growth - Pre-Tax Income	-0.4%	-0.8%	2.3%	5.0%	1.6%
Balance Sheet					
	\$	%		\$	%
Current Assets	439	67.4%	Current Liabilities	183	28.1%
Fixed Assets	123	18.8%	Long Term Debt	135	20.7%
Other Assets	7	1.1%	Other Liabilities	3	0.4%
Total Assets	651	100.0%	Total Liabilities	384	58.9%
			Net Worth	268	41.1%
Income Statement					
	\$	%			
Revenue	1,408	100.0%			
Gross Margin	503	35.7%			
Operating Expenses	475	33.7%			
Operating Income	28	2.0%			
Pre-tax Income	13	0.9%			
Net Income	8	0.6%			
Cash Flow Analysis					
Provided/(Used) by				\$	
Operating Activities				20	
Investing Activities				(32)	
Financing Activities				14	
Ratios					
Return on Net Worth	2.9%				
Return on Assets	1.2%				
Current Ratio	2.40				
Quick Ratio	0.88				
Debt/Net Worth	x1.43				
Z Score	<1.23 Weak	4.93			
	>2.90 Strong				

Ready

Start Microsoft P... WordPerfe... Integra ...

9:16 AM

Source: Reprinted with kind permission from Integra Information, a Division of Microbilt Corp.

The summary format provides the appraiser with a concise snapshot of the peer group. The industry growth rates allow you to compare the compound annual growth figures of the appraisal subject to the industry on a year-by-year basis. All of the financial statements can be expanded into larger amounts of information for each of these statements. The financial ratios provided in the detail section give you almost everything that you would need to calculate for an industry comparison. Let's look at the detail.



**Integra Business Profiler**  
File Tools Help

**Financial Statements** gd 5251 Retail Trade - Hardware stores (1,000 - \$2,499K) Go To Home

Summary **Income Statement** Balance Sheet Cash Flow Graph

*(Dollars in Thousands)*

	1995	1996	1997	1998	1999
<b>Revenue</b>	1,252	1,270	1,275	1,328	1,408
<b>Cost of Sales</b>	804	815	819	854	905
<b>Gross Margin</b>	448	455	456	475	503
Selling, General & Administrative	278	283	284	295	313
Officer Compensation	49	49	49	50	52
Pension & Benefits	13	13	14	14	16
Advertising & Sales	23	24	24	25	26
Bad Debts	3	3	3	3	3
Rents Paid	37	38	38	40	42
Depreciation & Amortization	19	19	20	21	23
<b>Operating Expenses</b>	422	430	431	449	475
<b>Operating Income</b>	26	25	25	26	28
Interest Income	3	3	3	3	3
Interest Expense	(18)	(17)	(17)	(17)	(17)
Total Other Inc(Exp)	1	0	0	(0)	(0)
<b>Pre-Tax Income</b>	11	11	11	12	13
<b>Income Taxes *</b>	(4)	(4)	(4)	(5)	(5)

Quick Print Dollars ☒ Percentages ☐

Ready Start Microsoft P... WordPerfe... Integra ... 9:18 AM

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As you can see from the above illustration, the financial statements can be viewed (and printed) in terms of dollars or common-size financial statements. Although we have not discussed this yet, even officer's compensation is provided in these figures. You may need this when you normalize the financial statements (discussed soon). The balance sheet can be accessed both ways as well. The cash flow statement is comparative in dollars for four years.

Financial ratios allow the appraiser to dissect the subject company's industry group the same way that we used to dissect frogs in biology. (My mother said I should have become a doctor, maybe even a brain surgeon!). Look at this breakdown of ratios.

### LIQUIDITY/SOLVENCY

- Quick Ratio
- Current Ratio
- Days Accounts Receivables Outstanding
- Days Accounts Payable
- Days Working Capital
- Days Inventory
- Accounts Receivable to Sales
- Accounts Payable to Sales
- Current Liabilities to Net Worth
- Current Liabilities to Inventory
- Cost of Sales to Payables

### TURNOVER

- Receivables Turnover

Cash Turnover  
Inventory Turnover  
Current Asset Turnover  
Working Capital Turnover  
Fixed Asset Turnover  
Total Asset Turnover

#### **DEBT**

Debt Service Coverage—EBITDA  
Debt Service Coverage—Pre-Tax  
Debt Service Coverage— After-Tax  
Interest Coverage  
Current Assets to Short-Term Debt  
Accounts Payable to Total Debt  
Short Term Debt to Total Debt  
Long Term Debt to Total Assets  
Short Term Debt Plus Long-Term Debt to Net Worth  
Total Debt to Assets  
Total Debt to Inventory  
Total Debt to Net Worth

#### **PROFITABILITY**

Gross Margin  
EBITDA to Sales  
Operating Margin  
Operating Cash Flow to Sales  
Pre-Tax Return on Assets  
After-Tax Return on Assets  
Pre-Tax Return on Net Worth  
After-Tax Return on Net Worth  
Pre-Tax Return on Sales  
After-Tax Return on Sales

#### **WORKING CAPITAL**

Working Capital  
Working Capital to Sales  
Net Income to Working Capital  
Inventory to Working Capital  
Short-Term Debt to Working Capital  
Long-Term Debt to Working Capital

#### **OPERATING EFFICIENCY**

Operating Expenses to Gross Margin  
Operating Expenses to Sales  
Depreciation & Amortization to Sales  
Total Assets to Sales  
Sales to Net Worth  
Sales to Fixed Assets

Inventory to Cost of Sales  
Intangible Assets to Sales  
Capital Expenditures to Sales

**RISK**

Z Score  
Fixed Assets to Net Worth

**GROWTH (COMPOUND AVERAGE GROWTH RATE—5 YEARS)**

Sales  
Operating Income  
Pre-Tax Profit  
Net Income  
Assets  
Liabilities  
Net Worth

The above list reflects Z Score under the risk category. If you are like me, you are probably wondering what this is. The Z Score is a financial distress (or solvency) prediction model. In assessing a company's level of financial distress or solvency, four ratios are used together, and each ratio is weighted. The following weighted averages are used:  $6.56 \times (\text{working capital to total assets}) + 1.05 \times (\text{net worth to total debt}) + 3.26 \times (\text{net worth to total assets}) + 6.72 \times (\text{operating income to total assets})$ . A score greater than 2.90 is preferred, and a score less than 1.23 indicates significant risk of bankruptcy.

*Business Profiler* can now be downloaded to Excel from The Internet. The CD-ROM version could be downloaded, but it is now available only online. We set up our valuation model so that we import this information directly from *Business Profiler* into our spreadsheet to perform an analysis against the data without having to input this stuff manually. The end result is this:

	Five	Six	Seven	Eight	Nine	Ten
<b>LIQUIDITY / SOLVENCY</b>						
Quick Ratio	1.87	2.07	3.31	2.18	4.19	2.96
Quick Ratio - Integra		0.60	0.60	0.60	0.60	0.60
Current Ratio	2.67	3.64	5.55	3.96	6.82	5.48
Current Ratio - Integra		1.12	1.12	1.12	1.12	1.12
Days Accounts Receivables Outstanding	25.60	53.71	53.64	54.08	53.70	53.10
Days Accounts Receivables Outstanding - Integra	#DIV/0!	49.86	49.86	49.86	49.86	47.22
Days Accounts Payable	13.03	21.69	14.28	11.57	14.78	17.52
Days Accounts Payable - Integra	#DIV/0!	22.08	44.17	44.17	44.17	41.96
Days Working Capital	42.09	92.07	110.33	115.90	125.17	133.63
Days Working Capital - Integra	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	10.87
Days Inventory Sales	32.55	71.62	80.79	83.60	85.84	92.63
Days Inventory Sales - Integra	#DIV/0!	57.03	57.03	57.03	57.03	53.68
<b>TURNOVER</b>						
Receivables Turnover	14.26	6.80	6.81	6.75	6.80	6.87
Receivables Turnover - Integra		7.32	7.32	7.32	7.32	7.79
Cash Turnover	32.29	23.50	25.47	20.72	16.10	17.35
Cash Turnover - Integra		41.11	41.11	41.11	41.11	49.11
Inventory Turnover	112.1	5.03	4.52	4.37	4.25	2.90
Inventory Turnover - Integra		6.40	6.40	6.40	6.40	6.80
Current Asset Turnover	5.42	2.69	2.59	2.48	2.35	2.28
Current Asset Turnover - Integra		3.30	3.30	3.30	3.30	3.22
Working Capital Turnover	6.67	3.96	3.31	3.15	2.92	2.73
Working Capital Turnover - Integra						32.68
Fixed Asset Turnover	12.25	5.47	4.95	5.43	6.50	8.23
Fixed Asset Turnover - Integra		5.42	5.42	5.42	5.42	5.57
Total Asset Turnover	3.43	1.73	1.64	1.65	1.66	1.67
Total Asset Turnover - Integra		1.85	1.85	1.85	1.85	1.85
Payables Turnover	28.01	16.92	25.56	31.55	24.70	20.93
Payables Turnover - Integra	#DIV/0!	16.53	8.26	8.26	8.26	8.70
SG&A Expense to Cash	5.77	4.13	4.76	3.72	2.69	2.59
SG&A Expense to Cash - Integra	#DIV/0!	14.28	7.13	7.13	7.13	7.46

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The subject company's financial ratios are calculated and presented directly above the *Integra Business Profiler* ratios. This way, we not only get to compare the financial ratios, but we also get to perform a trend analysis (discussed below). Before we move off the topic of financial ratios, one other item needs to be raised. Frequently, financial statements of the subject company have to be normalized (discussed below) for economic adjustments that are necessary to present the subject company from the point of view that the willing buyer would be purchasing. This raises an issue—should the appraiser use the unadjusted or the adjusted figures to perform the financial analysis and compare the results against the industry group? The answer depends on the facts and circumstances of the appraisal, as well as the nature of the adjustments that are made. Sometimes we compare both the unadjusted and the adjusted to the industry group. How is that for being definitive?

### Trend Analysis

The purpose of a trend analysis is to compare the subject company's performance over the past several years. The exact number of years used in the analysis depends on the facts and circumstances of each individual case. Although five years is the number commonly used, it is not always the correct number. Ideally, the period of years should cover a normal business cycle for the subject company.

During the trend analysis, the appraiser attempts to identify positive and negative trends affecting the company. The appraiser should review this data with the goal of determining the future prospects of the company based on historical growth patterns and based on the company's normal operations. This is a good time to identify items that are nonrecurring and will be removed during the normalization process and not considered in the forecast of future net earnings or cash flows.

### Operational Analysis

The purpose of performing an operational analysis is to determine information regarding the quality and stability of the earnings or cash flow from the business. The appraiser should be mindful that an equity investor is concerned with the ability of the subject company to provide earnings, cash flow, or both so that he or she will obtain a return on investment (e.g., dividends).

Some important components of this process include an analysis of (1) gross profit, (2) discretionary costs, and (3) financial statement consistency.

**Gross Profit Analysis.** An analysis of the cost of goods sold will provide the appraiser with information about the gross profit that the company has been able to achieve. Since the selling price of the goods is dictated by competition, the company's gross profit should be in line with the industry's. The subject company must produce an adequate volume of sales if it is to cover its operating expenses.

A gross profit analysis is also a useful tool for determining if the inventory is properly valued or if there is unreported income. Although there is a difference between an appraiser and a forensic accountant, there are times when one professional may perform both functions. Let me share with you an example of how this analysis can impact an appraisal. We were valuing a pharmacy that also sold liquor. The store never took a physical inventory, and we found out from one of the owners that there was cash payroll. Our gross profit analysis is reflected in Exhibit 5.4.

#### EXHIBIT 5.4 *Gross Profit Analysis*

To account for the significant amounts of cash not recorded by The Company, as well as the ending inventory being calculated based on a gross profit percentage rather than a physical valuation, the appraiser has recalculated gross profit based on industry gross profit percentages. Using these industry averages, we can estimate the amounts of gross revenue and net income that ABC Drug Stores, Inc. should have had each year.

(Continued)

**EXHIBIT 5.4 (Continued)**

In order to reflect the gross profit percentage of ABC Drug Stores, we have relied on industry data from Integra Information. To accurately calculate a gross profit percentage, we utilized data from both the drug store industry (SIC code 5912), and liquor store industry (SIC code 5921). The Integra data consisted of 1,050 drug stores with revenues between \$2.5 million and \$5 million, and 3,621 liquor stores with revenues between \$250,000 and \$500,000. The gross profit information appears below.

**Integra Gross Margins**

	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
Drug stores	28.00%	27.60%	27.30%	27.00%	26.70%
Liquor stores	25.00%	24.60%	24.20%	23.80%	23.40%

The gross margin percentages shown above are then applied to the percent of revenues ABC Drugs received from the sale of drugs or liquor in each year. The breakdown of ABC Drugs' revenues by type appears below.

**ABC Drug Revenue Breakdown**

	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
Drug revenues	91.10%	88.09%	88.58%	87.20%	86.97%
Liquor revenues	8.90%	11.91%	11.42%	12.80%	13.03%

Multiplying the revenue percentages by the industry gross margin figures in each year results in a weighted margin for drugs and liquor. Totaling the two figures in each year results in a weighted gross margin for ABC Drugs based on industry gross margins, and The Company's revenue breakdown by product type. The margin calculations appear below.

**Gross Margin Percentage Calculation**

	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
Drug margin subtotal	25.51%	24.31%	24.18%	23.54%	23.22%
Liquor margin subtotal	2.23%	2.93%	2.76%	3.05%	3.05%
Gross margin percent	<u>27.74%</u>	<u>27.24%</u>	<u>26.94%</u>	<u>26.59%</u>	<u>26.27%</u>
Gross margin less 10	<u>24.97%</u>	<u>24.51%</u>	<u>24.25%</u>	<u>23.93%</u>	<u>23.64%</u>

After calculating the gross profit margins relative to ABC Drug Stores, the appraiser applied a 10 percent discount to those figures in order to account for economic and industry-specific risk related to ABC Drug Stores. Based on The Company's operation in a low-income area, which includes a significant amount of customers utilizing government prescription plans such as Medicaid, and the overall competitiveness of the retail pharmacy industry, especially within the metropolitan region in which ABC Drugs operates, a 10 percent discount was determined to be appropriate.

To account for the significant amounts of cash not recorded by The Company, as well as the ending inventory being calculated based on a gross profit percentage rather than a physical valuation, the appraiser has recalculated gross profit based on industry gross profit percentages. Using these industry averages, we can estimate the amounts of gross revenue and net income that ABC Drug Stores, Inc. should have had each year.

Using the calculated weighted gross profit margin percentages, the estimated amounts of cost of goods sold, as a percent of revenues, can be calculated. These figures are as follows:

**Cost of Goods Sold Percentage Calculation**

	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
Revenue %	100.00%	100.00%	100.00%	100.00%	100.00%
Less: Gross profit %	24.97%	24.51%	24.25%	23.93%	23.64%
COGS %	<u>75.03%</u>	<u>75.44%</u>	<u>75.75%</u>	<u>76.06%</u>	<u>76.36%</u>

The above cost of goods sold percentages are then used to calculate the gross profit adjustment necessary to reflect the approximate amount of revenue that ABC Drug Stores should have achieved in each year. The gross profit adjustment for each year is listed in the income normalization table. With the addition of the gross profit adjustment to annual historic revenues and the cash payroll adjustment, the appraiser has reasonably calculated the annual revenues ABC Drugs attained each year.

**Discretionary Costs.** Several items included in the company's income statement may be discretionary and should be investigated by the appraiser. Some of the common items to be reviewed are repairs and maintenance (have they been deferred, or are there items that should have been capitalized?), research and development (is the company's policy to continue spending an equal amount on R&D, or is there a measurable payback for past R&D?), and advertising (is the company spending too much for too little?).

An analysis of discretionary costs will almost always be performed by a willing buyer, since that individual will be interested in knowing how much of the company's expense structure can be done away with to produce the maximum return to him or her. Because of the synergies that will be brought to the transaction by the buyer, merger and acquisition appraisals will also look to the level of discretionary costs that can be eliminated.

**Financial Statement Consistency.** Just as an auditor looks for consistency in financial reporting, the appraiser should analyze the financial statements for consistency from period to period. The appraiser must pay particular attention to the company's accounting policies. If the company has an aggressive capital expenditure expensing policy, the company's balance sheet will be understated for those assets that were expensed rather than capitalized. Not only does this understate the value of the balance sheet, but it also destroys the usefulness of many of the financial ratios calculated, common-size analyses, and cash flow projections.

Consistency should also be investigated during a trend analysis, since a review of a spreadsheet of the past several accounting periods may highlight discrepancies that exist between the reporting periods. For example, during a review of the insurance expense, the appraiser sees that the expense has been as follows:

	2000	1999	1998	1997	1996
Insurance expense	\$ 47,395	\$ 45,977	\$ 22,984	\$ 62,255	\$ 39,888

Reviewing the preceding figures for consistency reveals that something happened in 1997 and 1998 that warrants further explanation. An inquiry by the appraiser determined that in 1997 this "cash basis" company made a \$21,000 insurance payment that was for 1998. The owner decided to accelerate the expense into 1997, so that she could reduce her taxes for that year. Let's hear it for the matching principle!

## Financial Statement Adjustments

Before the appraiser can determine whether or not there will be the need to adjust the financial statements, he or she will have to assess the quality of the available financial information. While reviewing the historical financial statements, the business appraiser must determine the answers to the following questions:

- Are the financial statements complete with all footnotes and supplemental schedules?
- Is there sufficient detail to make the information usable in the comparative analysis to the industry and market data?
- Are the financial statements prepared under GAAP?

### Conversion of Cash or Income Tax Basis to GAAP

In assessing the quality of the company's financial statement information, there may be times when adjustments are necessary to convert the information presented to GAAP. More often than not, this will prove to be an accounting exercise that may not add any value to the appraisal process. A large part of the